

CURRENT PATENTS GAZETTE



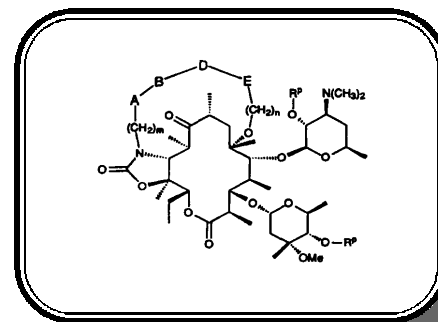
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DRUG PATENTING IN CONTEXT

Current Patents *Gazette* is the most rapid competitive intelligence service covering innovation in the pharmaceutical industry. Patent applications published during the past week have been classified and analysed, in order to place the inventions in context. For the most crucial innovations, those involving new chemical compounds, additional information is given in the form of front page images. These can be enlarged to show details of chemical structures and inventor teams, for example. Applications filed jointly, representing collaborative research, are highlighted, as are sequences of inter-related documents.

Erythromycins feature heavily among this weeks new compounds cases with Abbott and Pfizer each filing two applications apiece claiming novel derivatives of these antibacterial compounds but Taisho comes in top with three.



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Section A

New Compounds- novel entities, with images of front pages adding valuable additional information

Section B

New Uses, Formulations & Methods of Treatment- developments extending and enhancing the utility of existing products, including diagnostic and analytical applications

Section C

Chemical Processes and Combinatorial Technology- inventions concerned with efficient generation of candidates for screening, and with scale-up of laboratory syntheses in support of development activity

Section D

Biotechnology- molecular biology, nucleic acids, proteins, transgenics and gene therapy

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HIGHLIGHTS THIS WEEK

Publication of the *Gazette* this week is a few hours later than usual (Friday midday rather than Thursday evening, UK time), because of public holidays in Europe at the beginning of the week. In fact Thursday 6th was the official publication day for European applications, rather than Wednesday. The **USPTO** web site is functioning once more, following the interruption described in Week 9915's issue of the *Gazette*; however, publication schedules have not yet returned to normal and the numbers of US patents emerging seem a little low at present.

Ultrasound contrast agents are the subject of impending patent infringement litigation between two of the largest chemical companies in the US, **DuPont** and **Mallinckrodt**. The patent in question, US5547656, is owned by **ImaRx Pharmaceutical**, but exclusively licensed to DuPont Pharmaceuticals. Mallinckrodt, together with **Molecular Biosystems**, is alleged to be infringing claims to low-density gas-filled microspheres, which form the basis for DuPont's DEFINITY (contrast agent). The USPTO has recently confirmed ImaRx's claims after a re-examination initiated by Mallinckrodt and MBI in August 1997. This case first appeared October 1992 as WO9217514, and now awaits examination at the European Patent Office as EP580726, along with its divisional, EP804932. A further complication is the existence of six US divisionals and continuations, which bring into the family two further PCT applications, WO99532005 & '006. ImaRx is clearly seeking to maximise protection for this valuable invention, and to enforce its IP rights.

Thorough patent protection is also high on **Glaxo's** list of priorities for **abacavir**, the anti-AIDS product previously known as **1592U89**, now at the registration stage. A novel chiral synthesis developed at the Company's Stevenage and North Carolina sites is now claimed, further strengthening the protection afforded by several earlier process and combination cases. Another stereoselective synthesis, claimed by **United Therapeutics** of Washington DC, refers to **prostacyclin derivatives**, and is relevant to **Toray's beraprost**, currently in phase II trials under licence for pulmonary vascular disease. There may be even wider involvement in the development of this product, since several of the inventors, with addresses in Illinois, were previously associated with **Lunar Corp**. Another licensee, the Spanish company **SALVAT**, is claiming synthesis of eberconazole, an ergosterol synthesis inhibitor originating from Wassermann-SEFT, now in phase III trials as an antifungal. Quinolonecarboxylic acid antibacterials bearing an isoindoline substituent are the subject of process claims from **Toyama**; a candidate of this type, T-3811, is reported to be under preclinical investigation by **BMS**, again under license.

Roche has contrived to cause confusion with two pairs of cases displaying technical inconsistencies, all four applications originating from the former **Boehringer Mannheim** site in Germany. Two PCT documents relating to **cell microcarriers** share a common inventor and clearly form part of the same project, although one names Roche Diagnostics as applicant and the other names **Boehringer Mannheim**. A different kind of ambiguity surrounds two Roche Diagnostics European applications concerned with spray-drying, since the first was filed directly at the EPO without claiming priority, and the second was filed a year later claiming priority from the first. Both must cover essentially the same invention, though the later case has broader territorial coverage, embracing the six "extension" states in Eastern Europe.

Melanocortin receptor ligands feature in an application from **Trega Biosciences**, whose MC agonist **HP-228** entered clinical trials in 1995. Trega is collaborating in this field with **Northwest Neurologic**, **Ono** and **Novartis**, and appears to be among the leading companies targeting this obesity and immune system mechanism; also reportedly in phase II trials is **Palatin Technologies' PT-14**. Institutions patenting melanocortin receptors and their modulators include the **University of Michigan**, **Millennium Pharmaceuticals**, **Oregon Health Sciences University**, the **Rudolf Magnus Institute** and **South Africa's CSIR**.